C l a i m s

1.   A method for determining the ability of a network to
spread information or physical traffic, said network in-
cluding a number of network nodes interconnected by links,
5   the method being
c h a r a c t e r i z e d   i n

- mapping the topology of a network,

- computing a value for link strength between the nodes,

- computing an Eigenvector Centrality index for all
10   nodes, based on said link strength values

- identifying nodes which are local maxima of the Eigen-
    vector Centrality index as centre nodes,

- grouping the nodes into regions surrounding each iden-
    tified centre node,

15   - assigning a role to each node from its position in a
    region, as centre nodes, region member nodes, border
    nodes, bridge nodes, dangler nodes,

- measuring the susceptibility of the network to spread-
    ing, based on the number of regions, their size, and
20   how they are connected.

2.   A method as claimed in claim 1,

c h a r a c t e r i z e d   i n   computing said link
strength value for any pair of nodes by assigning a value
of 0 if no link exists and 1 if any link exists.

3.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   computing said link
strength value by counting the number of different types of
bonds any pair of nodes uses in their interaction, using
the number of bonds as a measure for link strength.

4.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   computing said link
strength value by measuring the traffic between any two
nodes, using the measure of traffic as a measure for link
strength.

5.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   computing said link
strength value by measuring the traffic between each pair
of nodes for each different type of bond, dividing the
amount of traffic in each type of bond with the total traf-
fic for that type of bond, using the sum of the resulting
fractions as a measure for link strength.

6.   A method as claimed in any of the claims 1 – 5,
c h a r a c t e r i z e d   i n   organizing said link
strength values into a matrix, the adjacency matrix, and
computing the Eigenvector Centrality index as the principal
eigenvector of said adjacency matrix.

7.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   assigning the role of re-
gion member nodes in a given region to all nodes that have
a unique association to the centre node of said region.

8.   A method as claimed in claim 7,
c h a r a c t e r i z e d   i n   assigning the role of re-
gion member nodes in a given region to all nodes that are
closer in number of hops to the centre node of said region
than any other centre node.

9.   A method as claimed in claim 7,
c h a r a c t e r i z e d   i n   assigning the role of re-
gion member nodes in a given region to all nodes for which
the steepest ascent link path in the topology map termi-
nates uniquely at the centre node of that region.

10.   A method as claimed in claim 7,
c h a r a c t e r i z e d   i n   assigning the role of re-
gion member nodes in a given region to all nodes that are
associated to the centre node in said region, if it is
closer (in number of hops) to the centre node in said re-
gion than to any other centre node, and if its distance
from the centre node in said region is not greater than a
predefined number of hops.

11.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   assigning the role of
border nodes to all nodes that have no unique association
to any one centre node.

12.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   assigning the role of
bridge nodes to all border nodes which lie on at least one
non-self-retracing link path connecting two centre nodes.

13.   A method as claimed in claim 1,
c h a r a c t e r i z e d   i n   assigning the role of
dangler nodes to all border nodes, and lie on no non-self-
retracing link path connecting two centre nodes.

14.   Use of the method as claimed in any of the claims 1 –
13 for preventing the spreading of virus or harmful infor-
mation in a network.

15.   Use of the method as claimed in any of the claims 1-13
for improving the spreading of information in a network.

16.   Use of the method as claimed in any of the claims 1 –
13 for planning the architecture of a network, in order to
improve robustness and/or security and/or communication ef-
ficiency in said network.

17.   Use of the method as claimed in any of the claims 1 –
13 for planning the architecture of a power network in or-
der to improve the robustness of said network.

18.   Use of the method as claimed in any of the claims 1 –
13 for planning a distribution network for goods.

19.   Use of the method as claimed in any of the claims 1 –
13 for planning a transport network.